

Grounding and Bonding

Course Syllabus & Outline

Course Details:

CEU Credits: 8

Contact Hours: 8

Course Type: Code Related

Required Textbook: 2008 NEC Code Book

Class Format/Location: Web-based course delivered on-line @ www.bluevolt.com

Prerequisite: Current or reciprocal state electrical license

Instructor: Rod Belisle

Course Description:

This course is designed to teach the grounding requirements as they relate to Article 250 and other articles of the National Electric Code. Installation, testing, and inspection procedures for industrial, commercial, and residential power systems will also be discussed. The rules to minimize the risk of electricity as a source of electric shock and as an ignition source of fires and explosions will also be covered.

Course Learning Objectives:

1. Provide an overview of Article 250
2. Promote safety awareness
3. Increase familiarity with article 250 of the NEC
4. Understand proper terms of Grounding per the NEC
5. Accurately identify approved/ required grounding electrodes
6. Size and install the proper Grounding electrode conductor for a service
7. Properly locate and size the main bonding jumper at a service
8. Properly size a grounding electrode conductor at a separately derived system
9. Determine size and location of the bonding jumper in a separately derived system
10. Size properly the conductor required for equipment grounding
11. Determine the proper size conductor when compensating for voltage drop.

Grading/Evaluation: Pass/No Pass. Participants will receive feedback on their progress in meeting the student learning outcomes at several points throughout the course through the use of section quizzes. Each participant's final progress in meeting the student learning outcomes will be evaluated based on a comprehensive final examination.

Evidence of Completion: Students will be provided (via email) with a certificate of completion upon successful completion of the course. BlueVolt will maintain a permanent transcript of each student's participation in the course.

Course Outline:

Unit One

General Requirements

- a. System Grounding Requirements
- b. 250.1 thru 250.22

Unit Two

Grounding Systems

- a. Service Supplied AC Systems
- b. Line Side Connections
- c. 250.24 thru 250.30
- d. 250.90 thru 250.92, 250.102

Unit Three

Multiple Buildings and Generators

- a. 250.32 thru 250.36

Unit Four

Grounding Electrode System

- a. Grounding Electrodes
- b. GEC
- c. GEC Connections
- d. 250.50 thru 250.70

Unit Five

Equipment Grounding Requirements

- a. 250.110 thru 250.148
- b. Voltage Drop